

Engineering Weekly Report 4/29/2021 - 5/6/2021

Executive Council Notes

- LRAUV Development (Hobson)
 - We wrapped up three weeks of intensive vehicle operations with the recovery of Makai and Daphne on Monday. Two ESP equipped vehicles, Makai and Brizo, collected over one hundred samples along and performed on-board analysis for HAB toxins during the EcoHAB deployment. Daphne and Pontus were deployed as well to perform automated patch tracking and general science surveys around the sampling vehicles.
 - LRAUV Tethys, Pontus and Brizo were deployed at Portuguese Ledge for Dr. Rock to demonstrate how LRAUVs can use the position of nearby vehicles, using acoustic communications and tracking along with Terrain Relative Navigation to refine their position estimates.
 - LRAUV Triton will head offshore next to test the new bio-acoustic payload for Dr. Benoit-Bird
 - LRAUV Galene is being configured for some midwater imaging work for Dr. Katija next week.

Individual Activities

- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - possible deployment of Cytobot
 - 902106 - Niobicon-Based AUV Docking Development
 - Assembling hardware for test in the tank
 - Niobium power-transfer test
 - Out of Office
 - Took Thursday off
- Mark Chaffey
 - Out of Office
 - Will be OoF May 1 - 22 and unavailable.
- Danelle Cline
 - Out of Office
 - March 29-April 2nd. I will be off-the-grid for a good part of this.
- Duane Edgington
 - 901618 - Pelagic-Benthic Coupling
 - Ran new test images of new calibration target through Matlab Computer Vision Toolbox (checkerboard calibration) for Paul McGill. Reported resulting calibration parameters for eval.
 - Test dive planned in June.
 - 902005 - VARS Annotation Assistance
 - Working through python SDK for AWS Price List Service (Query) API
 - Capstone Project CSUMB weekly meeting
 - Overhead
 - Project proposal 2022 workshop on May 4
 - Seminar May 5
 - Out of Office
 - May 3 - 7. International Conference on Learning Representations
 - Talks on Self-Supervision for Learning from the Bottom Up (Efros UCB), Is My Dataset Biased? (yes) (Kate Saenko, BU)

- Workshops May 7: Weakly Supervised Learning, Meta-learning
- Jon Erickson
 - 701145 - Penguin Hotspots
 - EK80 chassis re-design.
 - 800139 - EyeRIS
 - Camera pressure case assembly - Pressure test
 - 901217 - Chemical Sensor Program
 - Waiting on the tubes from Amalga.
 - 902010 - Mesopelagic LRAUV
 - Waiting on the tubes from Amalga
- Kevin Gomes
 - 901009 - CANON
 - A light amount of tidy up post experiment
 - Cut test machine over to Ubuntu, starting configuration of normandy replacement. Waiting on Atlas share work.
 - 902100 - Telepresence on MBARI Research Vessels
 - Picking up VueJS work again, looking at authentication and components
 - Overhead
 - Group meeting
 - Met with Mike K to discuss Packard planning
 - Bug fixes and other for Carson/Navproc/Dataprobe related stuff
 - Out of Office
 - Sick Leave Monday
 - May 12-24: Vacation
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Firmware updates and bug fixes
 - Matlab record loader
 - Software testing
 - Abstract content
 - Overhead
 - SRSC meeting
 - Hiring input
 - Seminars
 - Dorado code review
- Rich Henthorn
 - 901101 - Seafloor Mapping
 - Merging software versions from mapping vehicles
 - 901618 - Pelagic-Benthic Coupling
 - Rover manuscript support
 - Proposal support
 - Overhead
 - Proposal kickoff
 - Updating Windows machines
 - Out of Office
 - July 7 - 9, vacation
 - July 26 - Aug 9, mostly vacation, network and phone access
 - Sept 22 - Oct 1, vacation

- Brett Hobson
- Scott Jensen
 - 901205 - ESP SURF Center
 - Tested terrestrial pump system components for upcoming deployments
 - Hiring committee
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Placed order for rebuild parts
 - 901805 - Coastal Biogeochemical Sensing
 - Unipolar DuraFET biasing seems to be working a few tests remain
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Full prototype PCB for Thruster drive has been sent out for fabrication
 - 902106 - Niobicon-Based AUV Docking Development
 - Support of ongoing testing
 - Overhead
 - Gaining experience with PCB editor
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - CANON/ECOHAB data processing
 - 901800.98 - Bioacoustic Payload
 - Final mounting of gimbal assembly weight and check outs in the tank. Calibrated Absolute orientation sensor
 - 901805 - Coastal Biogeochemical Sensing
 - Flying Spray 29 in support of Yui's experiments
 - Prepping Spray 34 for deployment
 - Out of Office
 - Wed/Thurs
- Chad Key
 - Out of Office
 - Possibly out 4/26 (right after 2nd Pfizer shot)
 - May 18-24/25 Vacation (staying local)
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Supported Takeshita deployment with autonomous tracking script for NPS glider
 - 708168 - DHS Y7
 - Assisted with GF isolation, weekly meeting
 - 901009 - CANON
 - Wrapped up CANON/EcoHAB deployments
 - 901800.98 - Bioacoustic Payload
 - Configured triton for deployment
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Finished docking arm component integration and test mission for tank testing this week with hardware in the loop.
 - Finished lab tests prior to docking tank tests
 - Acomms testing for LRUAV/Waveglider
 - Out of Office
 - May 6 (morning)
 - May 10-12 (tentative PHX)
 - Jul 1-9 (vacation)
 - Aug 5-6 (vacation)
 - Aug 16-31 (Great Lakes LRAUV)

- October 25-31 (PLOCAN glider school tentative)
- Denis Klimov
- Diana LaScala-Gruenewald
 - 200103 - Core CTD Data - MDUC
 - Finished troubleshooting issue with ROV CTD O2 data reprocessing
 - Set a whole bunch of QC flags that had been accumulating
 - 500055 - Video Annotation DM
 - Continued troubleshooting code generating concept distribution maps for all concepts
 - Overhead
 - Weekly meeting(s)
 - Out of Office
 - ½ day sick last Friday
- Eric Martin
 - 901101 - Seafloor Mapping
 - Offshore last week on the Western Flyer, conducted 4 surveys at Extrovert Cliff, and Octopus Garden. Dive time lost only to weather and ship issues.
 - Equipment ran successfully, new TCU was a great help in mob/demob and reliability. Lighting improvements have generated the best photography to date.
 - 901206 - Coastal Profiling Float
 - Concept review for HDBP
 - 901911 - ROVVR
 - Final presentation by SCOPE team, they were able to deploy a useful solution.
 - 902100 - Telepresence on MBARI Research Vessels
 - Supported operations on the Flyer and Carson.
 - 500055 - Video Annotation DM
 - Helped Lonnie at sea troubleshoot issues with M3RS.
 - 368000 - DMO AUV
 - Helping Erik T look at issues with the edgetech system.
 - Out of Office
 - Tuesdays until summer break for schools.
- Thom Maughan
 - 901009 - CANON
 - Working with Paul C to wrap up eDNA box packaging.
 - 901805 - Coastal Biogeochemical Sensing
 - Big push on MpHOx software is winding down. Review with Yui on Wed resulted in a short list of changes.
 - Ordered parts to make instrument simulators for SBE MicroCat, Aanderaa Optode and conductivity.
 - Working with Paul C to get an esd box with dev boards mounted. Will replicate once we get the first one 'right'.
 - QA procedure updated. Requested the remaining MpHOx boards be tested next week. First batch resulted in 3 fails. Inventoried the boxes.
 - 901713 - Nearshore FOCE
 - Optode and Conductivity drivers are written and tested.
 - Delivered an MpHOx setup to Dale Graves, basic operation explained.
 - Delivered an MpHOx setup to Chris Lovera, basic operation explained. pH measurements successfully made with a pencil durafet2 and working cable.
 - Sent status to the group.
 - 902004 - Planktivore
 - Working on board bullets. Getting ready for focused execution.

- Out of Office
 - Second Moderna vaccine received on 4/30.
 - Vacation 6,7,10,11 May (4 days) Updated to fix a typo (Apr) and add a day 5/11. Flying to Missoula and driving solo back to CA.
 - Vacation 31 May - 4 Jun (5 days). Camping in SLO county.
 - Vacation 14-18 Jun (5 days) Camping a night on USS Iowa, then Catalina Emerald Bay with Scouts
- Mike McCann
 - 901009 - CANON
 - With help from IS moved stogs.shore.mbari.org from dedicated hardware to an Ubuntu VM
 - Loaded Western Flyer CTD data into [stogs_canon_april2021](#) which is served by the new VM
 - Wrote parquet2csv.py to make the STOQS parquet output even more usable
 - Working with Chris Preston to make sure we properly have all of the ESP filtering data
- Rob McEwen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Reading papers in order to understand wave prediction algorithms.
 - Out of Office
 - Taking one day of vacation per week for the next 6 weeks or so.
- Paul McGill
- Ed Mellinger
- Tom O'Reilly
 - 901112 - Monterey Bay Time Series
 - Participated in Imaging Flow Cytobot (IFCB) operations training with McLane engineers
 - Met with project team, Hamilton and Cazenave to discuss potential IFCB integration with power buoy
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Testing Hotspot acoustic relay in lab with multiple LRAUV vehicles/modems.
 - 902018 - Mixing Rates from Autonomous Profiling Floats in the Coastal Oceans
 - Met with Rockland engineers, MBARI team to discuss potential 2022 project proposal
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Modify BRS chamber valves
 - Build up proto system
 - Out of Office
 - Vacation day
 - Overhead
 - Misc succession planning
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - Pressure testing new cartridges, seal mods and assembly methods.

- Agreements in place (I think)
- Carlos Rueda
 - 708168 - DHS Y7
 - Ryan G. has installed Dash 4.4.3 and will be testing the new websockets endpoint. He's also looking into issues with the sending out of emails from the dash, apparently fixable by tweaking mail server settings.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Dash 4.4.3 continues to be under testing, satisfactory so far.
 - Initial template for a [Tethys Language constructs](#) section in the LRAUV Mission documentation.
 - Exchanges with Brent R re additions/adjustments to the LRAUV-ESP interaction protocol.
 - TethysL: preparing release of first functional version of the command-line interface (CLI) as well as the VSCode extension. Lots of code cleanup and refactoring (with [mbari/tethysl](#) turning out to be pretty much a [monorepo](#) for all things involving core TethysL functionality: HTTP server, LSP server, LSP clients, support for the web-based editor, ...).
 - Overhead
 - IE meeting.
 - Proposal Process Workshop.
 - ESIP Community Ontology Registry meeting. Wrote a python script to help admins with some registry "maintenance" tasks: [misc.py](#)
 - Dr. Kendall Moore seminar (excellent).
- Karen Salamy
 - Overhead
 - Continued weekly meetings with Rich and Danelle on Rich succession planning tasks.
 - Wrote a script to determine if stale vipr lock files on coredata system.
 - Helped several CVS users access their accounts (forgotten passwords).
 - Out of Office
 - I will be receiving my second COVID shot this Friday and may have to take the day off.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Updated M3 microservices on the Rachel Carson.
 - Investigating issues with Framecapture due to continuing changes in macOS security.
 - Due to work on FathomNet, taking a break from work on the new Deep-sea Guide. An in-development DSG version (very-alpha) is at <http://m3.shore.mbari.org/deepseaguide>
 - 902002 - Fathomnet Detect and Classify
 - [Merged temporary annotations database](#) used for `special` edits into master
 - [Coding up data embargoes](#) for FathomNet. There's some back and forth with various parties for clarification as the embargo requests are ... interesting.
 - Also working on [data synchronization](#) between VARS and FathomNet
 - [Generated](#) a [trimmed KB tree](#) for a publication graph.
 - Adding additional parameters (CTDO, altitude) to accepted FathomNet metadata.
 - [Published doc](#) on submitting data to FathomNet
 - Overhead
 - Continue to meet with CSUMB capstone students.
 - Out of Office
 - May 6,7 - [Vacation](#)
- Rich Schramm
 - 200105 - Core Nav - MDUC
 - Found a nasty memory leak a Xojo function that was crashing dataprobe.
 - Overhead
 - Continued meeting on knowledge transfer.

- Out of Office
 - 5/12 thru 5/14
 - 6/3 thru 6/7
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Finding Canon cables or alternates for Close up camera
 - 901809 - Deep Sea Bioinspiration
 - Finished schematic of new dye injector
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Finished schematic for tilt motor, gathered components for tilt motor for DiSCO camera
 - Finished schematic for battery housing for Macro
 - Trying to find right and down angle connectors for Sony system
 - Overhead
 - Attended Kendall Moore's seminar
 - Wrote job description for EE position
 - Attended PI meeting to discuss microbiology PI position